

What Is Claimed Is:

1. A method of detecting an enzyme-mediated nucleic acid cleavage reaction in a fluorometric assay comprising the steps of:

(a) preparing a fluorescently labeled oligonucleotide containing a nucleic acid sequence recognizable by said enzyme, wherein said oligonucleotide acts as an enzyme substrate;

(b) contacting said oligonucleotide of step a) with said enzyme in an amount sufficient to enzymatically cleave said oligonucleotide; and

(c) detecting a nucleic acid cleavage reaction by detecting an increase in fluorescence.

2. The method of claim 1, wherein said oligonucleotide is fluorescently labeled at one end.

3. The method of claim 1, wherein said oligonucleotide is fluorescently labeled at both ends.

4. The method of claim 1, wherein said nucleic acid is DNA.

5. The method of claim 1, wherein said nucleic acid cleavage reaction is catalyzed by a restriction enzyme.

6. The method of claim 1, wherein said nucleic acid cleavage reaction is catalyzed by a DNase or RNase enzyme.

7. The method of claim 1, wherein said nucleic acid cleavage reaction is catalyzed by a retroviral integrase enzyme.

8. The method of claim 2, wherein said nucleic acid cleavage reaction is catalyzed by a restriction enzyme.

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9. The method of claim 3, wherein said nucleic acid cleavage reaction is catalyzed by a retroviral integrase enzyme.

10. The method of claim 5, wherein said restriction enzyme is *BamHI*.

5 11. The method of claim 7, wherein said retroviral integrase enzyme is HIV integrase.

12. The method of claim 1, wherein said enzyme mediated nucleic acid cleavage reaction occurs during a process for amplifying or detecting a specific DNA or RNA sequence.

10 13. The method of claim 12, wherein said process for amplifying or detecting a DNA or RNA sequence is catalytic hybridization amplification.

14. The method of claim 12, wherein said process for amplifying or detecting a DNA or RNA sequence is a polymerase or ligase chain reaction.

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a'

add
B'

add
c2

add
D'

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